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ABSTRACT

Three approaches to the problem of helping underachieving seventh grade boys improve their study habits are compared: (1) behavior modification; (2) group counseling; and (3) didactic instruction. A pre-post criteria format sought to measure change in terms of: (1) academic achievement as measured by grade point average; and (2) study habits and attitudes as measured by The California Study Methods Survey. In addition, students were asked about their attitudes toward whichever treatment condition they were involved in. No statistically significant differences between groups or in comparison with a non-treatment control group were found either post-treatment or in a 6 month follow-up. Inspection of the data does, however, suggest a trend in favor of treatment over no treatment, with behavior modification being seen as most effective. (Author/TL)

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IMPROVING THE STUDY SKILLS OF DISCREPANT ACHIEVING SEVENTH GRADE STUDENTS

Roger G. Baker and James P. Pappas

Abstract:

This report is a comparison of three different approaches to the problem of helping underachieving seventh grade boys improve their study habits. The approaches studied were behavioral modification, group counseling and didactic instruction. Criteria of interest were academic achievement (GPA) and attitudes towards studying, school and treatment. There were no statistically significant differences between groups or in comparison with a non-treatment control group either post-treatment or in a six month follow-up. However, inspection of the data suggests a trend in favor of treatment over no treatment, with behavior modification being seen as most effective.

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(Presented at the American Personnel and Guidance Association meeting, Atlantic City, New Jersey, 1971)

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IMPROVING THE STUDY SKILLS OF DISCREPANT ACHIEVING SEVENTH GRADE STUDENTS

Roger G. Baker and James P. Pappas

Discrepant academic achievement[1] appears to be a common problem in secondary schools (Baymur, 1960). In spite of its pervasiveness, intervention programs in the secondary schools to assist the discrepant achiever have typically been of limited scope. These limitations generally fall in one of the following categories: (1) a formalized program may be non-existent; (2) intervention typically may not occur until there is a crisis (e.g., failure); or, (3) interventions may be available only on an individual basis serving a limited segment of the students in need. Because of a high pupil-counselor ratio, it is often necessary that counselors develop a service that will be effective and economical for large segments of the student body.

The problem of this study was to determine which of three methods was best for modifying the discrepant achievement of selected seventh grade boys in a junior high school where there was no previously formalized intervention procedure. The methods that were chosen to be compared for their effectiveness were didactic instruction, group-centered counseling and contingency management procedures. These methods were compared with a control situation of no treatment. They were selected

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[1]Operationally defined, discrepant achievement means a lower than psychometrically predicted academic achievement. Underachievement was not used because of conflicting associated meanings.

for study because they appeared to represent group programs that could reach relatively larger numbers than traditional counseling and also they represented the current major trends in intervention strategies for groups.

Equally important, it was felt that the research should be done in a secondary school setting. While there have been a variety of research studies attempting to assess the effectiveness of various intervention programs, the majority of these have been college oriented (Bednar and Weinberg, 1970). As Tiedeman (1960) has indicated, it is important that we begin developing research programs in "the general operating context of the secondary school."

METHOD

Subjects

The subjects were selected from a pool of seventh grade boys at the Butler Junior High School in the Jordan School District of Salt Lake City, Utah. The study called for the identification of a group of discrepant achievers from this pool. To determine this, a comparison was made of the students' GPAs and their scores on the California Test of Mental Maturity (CTMM). All of the group had taken the CTMM in the sixth grade. Grades for their first two quarters of the seventh grade were available at the start of the study period. A student was selected as a potential subject if his GPA was less than 2.7 (the class average) and his CTMM I.Q. score was greater than 100 (the class average).

Sixty students met the criteria for inclusion in the study. They were divided into four groups of 15 students each and were included in

the groups with a matching procedure. This procedure was designed to match the four groups for I.Q. and cumulative GPA. A statistical comparison of these characteristics show that there were no significant differences in the four groups selected (see Appendix A).

The parents of all subjects, except those in the control group, were contacted and told of their son's participation in a program to improve his study skills. They were asked to encourage their son to study at home. In the case of the subjects of the contingency management group, the parents were asked to be party to a behavior contract (Appendix B) and to contribute $3.00 to defray the cost of the reinforcement procedures.

Study Variables

The design of the study was a pre-post format and sought to assess change after the treatment had been administered. The criteria measured were: (1) academic achievement as measured by grade point average; (2) study habits and attitudes as measured by The California Study Methods Survey (CSMS); and, (3) attitudes towards the treatment procedure as measured by a two item questionnaire.

Procedure

The Discussion Treatment. The treatment for this group was eight sessions of 50 minutes duration once a week. Initially the leader announced that the purpose of the group was to help the students improve their study skills. The students were told that they could discuss any topic in the group but were encouraged to bring up topics that related to school and studying. The group leader was quite nondirective and

did not initiate topics or impose structure. With the exception of the initial structuring, this treatment was patterned after the group-centered treatment approach described by Lifton (Gazda, 1968).

The Seminar Treatment. Each of the eight 50 minute meetings of this group was structured to present a different topic. It can best be described as a curriculum based didactic class that met once weekly. A filmstrip was used to introduce each of the eight topics and ran from ten to fifteen minutes. The filmstrips are part of an Eyegate series entitled Studying For Success (Eyegate, 1967).

The Contingency Management Treatment. A behavioral contract (Appendix B) between student, experimenter, and parent comprised the main structure for this group. The contract specified the acceptable behaviors and their subsequent reinforcement. Behaviors specified were: (1) copying down the assignment; (2) taking material home; (3) doing the assignment; and, (4) turning in the assignment. An individual record was maintained for each student as he reported to the investigator for a ten minute period before and after school as specified in the contract. The record was marked with a check each time the student completed one of the specified behaviors. The rate of reinforcement was one token (poker chip) for each mark on the student's individual record and candy bars were bought from the investigator at lunch time at the rate of four tokens per bar.

ANALYSIS OF THE DATA

The statistical hypotheses, in null format, were that there would be no differences between or among groups for the pre-post criteria

measures. The hypotheses were tested by the use of t-tests (Garrett, 1957). The .05 level of significance was used in all tests. There were no pre-treatment differences in the groups.

The GPA Criteria. None of the experimental groups showed a significant change in GPA after the eight week treatment or in a six month follow-up (see Tables 1, 2). Nor was there a significant difference between the groups for either time period (see Tables 3, 4). However, graphic examination (Figure 1) shows that all three experimental groups showed an improving trend greater than the control group whose average GPA dropped slightly. Analysis of a six month follow-up showed a similar trend.

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Insert Tables 1, 2, 3, 4 and Figure 1 here

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The CSMS Criteria. The experimental groups showed no significant changes on the total score or the subscales of the CSMS nor was a significant difference between the groups as determined by the t-tests.

Attitude Survey. Following the treatments, the subjects were surveyed on a five point scale (Appendix C) as to whether or not they felt the experience was beneficial in helping them study better. The survey showed a significant difference in favor of the reinforcement group over the other groups (seminar, $t = 2.50$, $df = 23$; discussion, $t = 2.72$, $df = 23$). Also, on a second rating item designed to determine if the subjects felt that their attitudes toward school had been affected by the treatment, the reinforcement subjects rated their experience significantly higher than the discussion group ($t = 2.40$, $df = 23$)

TABLE 1

A Pre-Post Comparison for all Groups on GPA Data

Group	n	Pre		Post		M diff	df	t
		M	sd	M	sd			
Reinforcement	11	1.87	.52	1.95	.14	.08	20	.461
Seminar	14	1.89	.67	2.01	.65	.12	26	.414
Discussion	14	1.92	.71	2.04	.57	.12	26	.826
Control	12	1.84	.62	1.83	.75	-.01	22	.003

TABLE 2

A Pre-Post (six month) Comparison for all Groups on GPA Data

Group	n	Pre		Post		M diff	df	t
		M	sd	M	sd			
Reinforcement	11	1.87	.52	2.16	.64	.28	20	1.10
Seminar	14	1.89	.67	2.11	.72	.22	26	.806
Discussion	14	1.92	.71	1.90	.57	-.08	26	.318
Control	12	1.84	.62	1.88	.55	.04	22	.160

TABLE 3

A Between Groups Comparison on GPA Data[1]

Source	df	Pre		Post	
		M diff	t	M diff	t
Reinforcement X Seminar	23	.02	.004	.06	.316
Reinforcement X Discussion	23	.05	.020	.09	.692
Reinforcement X Control	21	.03	.012	.12	.522
Seminar X Discussion	26	.03	.011	.03	.136
Seminar X Control	24	.05	.018	.18	.621
Discussion X Control	24	.08	.029	.21	.808

TABLE 4

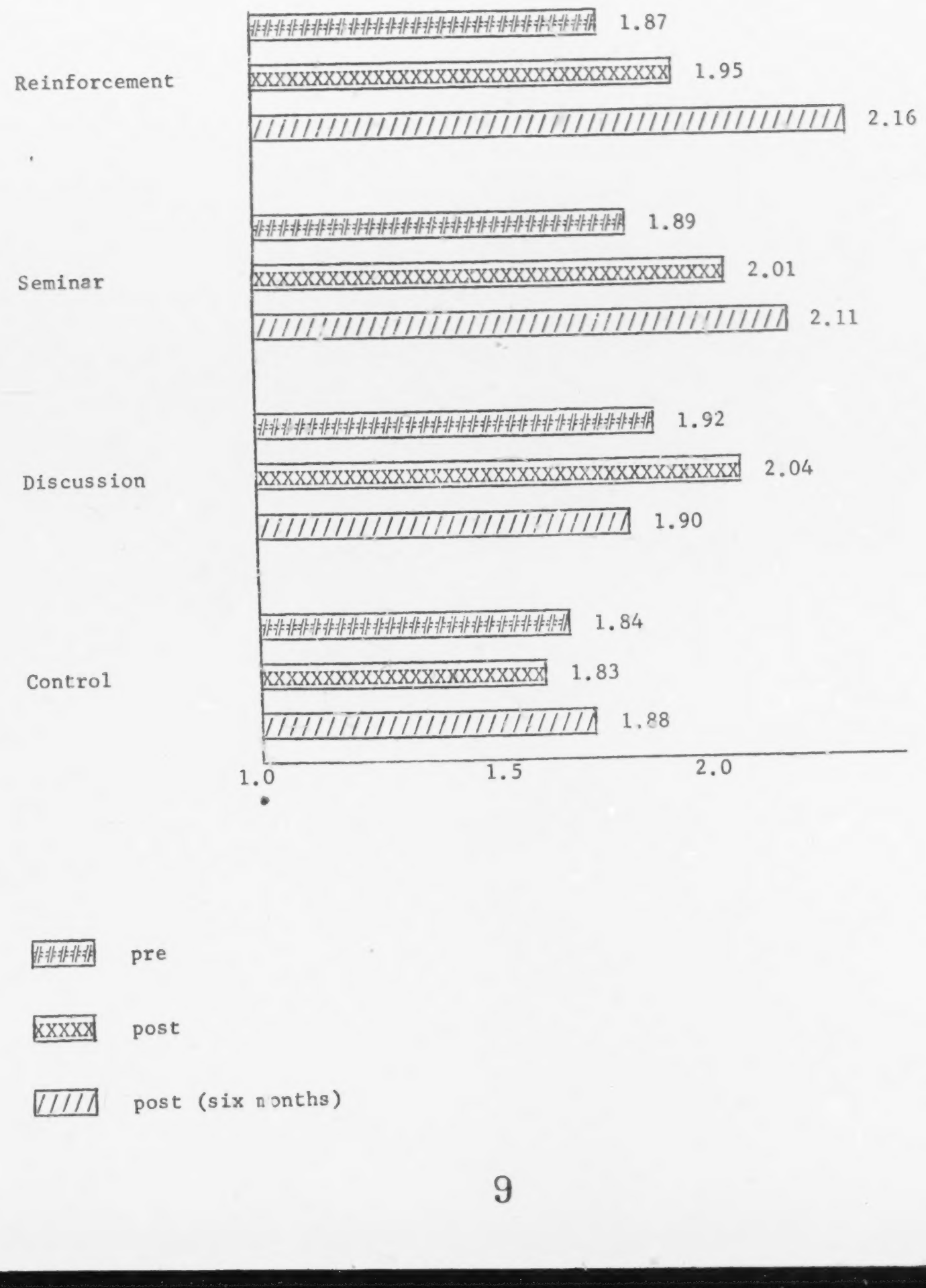
A Between Groups Comparison on GPA Data (six months)

Source	df	Pre		Post	
		M diff	t	M diff	t
Reinforcement X Seminar	23	.02	.004	.05	.175
Reinforcement X Discussion	23	.05	.020	.26	1.02
Reinforcement X Control	21	.03	.012	.28	1.07
Seminar X Discussion	26	.03	.011	.21	.830
Seminar X Control	24	.05	.018	.23	.885
Discussion X Control	24	.08	.029	.12	.530

[1]All comparisons are non-significant.

FIGURE 1

SUMMARY OF PRE-POST GPA DATA



but not the seminar group (t = 1.92, df = 23).

Clinical impressions suggest that all subjects were committed to their programs and excited about being studied. Clearly, however, the reinforcement group showed the most enthusiasm for the project. Parental involvement and requests from peers to participate in the reinforcement program corroborated this impression.

DISCUSSION

If one were to examine the research literature (Bednar and Weinberg, 1970; Hart, 1963) in the area of treatment programs for low achievers, the non-significant results but favorable trends for reinforcement seem to be consistent with much of the literature. However, in retrospect, the experimenters felt there were several factors that weakened the emergence of significant results.

1. In discussing this study with several faculty members, it was realized that many of the students had been "labelled" as poor achievers. As other studies have suggested (Rosenthal, 1966) when such a label has been attached to a student, teachers may have difficulty in changing their evaluation of him even though his behavior changes. This may have masked the emergence of more divergent pre-post criteria scores.

2. Another weakness may have been the lack of individuality in assigning the treatments. Discrepant achievement probably has multiple antecedents or causes. Not tailoring the program to specific behaviors, particularly in the reinforcement model, may have added greater variability and again masked possible significant results. An extension of this study might be to compare the group programs with individual approaches.

3. Bednar and Weinberg (1970) suggest that for treatments of this type to be successful with college students they should be of longer duration. The study may have achieved more significant results if the program had run for a year rather than the eight week period. Such a long term program may also have been effective in changing teacher biases.

4. As all three programs were administered by one experimenter, perhaps the experimenter's therapeutic potency was more than that of the treatment method. Researchers (Truax and Carkhuff, 1970) suggest that counselor characteristics are in fact more important. A refined study comparing treatment by different experimenters may produce different results.

5. The criteria used may have been too far removed from the actual behavior change. If a traditional single subjects design with base rates of the specific behaviors was used, perhaps change would have been more evident.

In conclusion, trends do suggest that some treatment program does help students perform better than no treatment. In addition, the results do clearly suggest that students "feel better" when involved in treatment, particularly of a reinforcement or contingency management type. However, it should be remembered that these results do not argue for the superiority of any one treatment program over the others.

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APPENDICES

APPENDIX A

A Comparison of Critical Variables for the Subjects[2]

Source	n	IQ		GPA	
		M	sd	M	sd
Reinforcement	11	113.6	8.5	1.87	.52
Seminar	14	112.7	9.8	1.89	.67
Discussion	14	113.3	11.0	1.92	.71
Control	12	112.6	6.9	1.84	.62

A Between Groups Comparison of IQ Data

Source	M diff	df	t
Reinforcement X Seminar	0.9	23	.237
Reinforcement X Discussion	0.3	23	.075
Reinforcement X Control	1.0	21	.294
Seminar X Discussion	0.6	26	.146
Seminar X Control	0.1	24	.294
Discussion X Control	0.7	24	.189

[2]No significant difference.

APPENDIX B

STUDY CONTRACT

I, _____, hereby certify that I will do the following:

(1) Go to the counselor's office every morning before 8:00 a.m. to report what assignments have been completed.
(2) Report to the counselor's office every dat at the eight minute bell seventh period to describe what assignments need to be done and to check on what materials are needed. At this time the counselor will check the student assignment sheet.
(3) Report honestly to the counselor which assignments are assigned and completed.
(4) Purchase no candy at school.
(5) Eat only candy bars supplied by the counselor while at school.
(6) Record all assignments on the assignment sheet provided by the counselor.

I further understand that the counselor will:

(1) Keep an accurate record of:
    (a) assignments copied on the assignment record
    (b) materials taken home
    (c) assignments completed
    (d) assignments handed in
(2) Provide tokens to the student on a daily basis as mutually agreed on for successfully:
    (a) keeping an assignment record
    (b) taking study materials home
    (c) doing assignments
    (d) handing assignments in
(3) Provide help with school work as requested by the student. Tokens can be exchanged for candy at lunch time and after school at the rate of four tokens per candy bar.

Signed, _____
student

_____
witnessed

date_____

Parents are asked to pay $3.00 to help with the candy expense. The amount not used will be returned.

APPENDIX C

The two ratings were each made on a five point scale which read as follows:

My experience with the counselor working on study habits:

_____helped me improve my study habits considerably

_____helped me improve my study habits slightly

_____had no effect on my study habits

_____made my study habits slightly worse

_____made my study habits considerably worse

My experience with the counselor working on study habits:

_____helped me like school considerably more

_____helped me like school slightly more

_____had no effect on how I like school

_____made me dislike school slightly more

_____made me dislike school considerably more

The first statement in each set was given the value of 5, the second a value of 4, the third a value of 3, the fourth a value of 2, and the last statement a value of 1. The obtained ratings of the three experimental groups were also utilized as a criterion.